prehensive value both to those who may be interested from the popular standpoint and to those who intend to work themselves. The bibliography includes about five hundred and sixty-five citations.

For valuable counsel during the earlier progress of the work the author makes acknowledgment to Professor Wm. J. Gies.

RAYMOND H. POND

BOTANICAL NOTES

THE EAR-ROTS OF INDIAN CORN

Two recent bulletins deal with this serious trouble to our most important crop. The first is "The Life-History and Parasitism of *Diplodia zeae* (Schw.) Lev.," by F. D. Heald, E. M. Wilcox and Venus W. Pool, in the Twenty-second Annual Report of the Nebraska Agricultural Experiment Station, January, 1909. This paper gives the results of the investigations which have been in progress for several years as to the cause of the extensive loss in Nebraska from ear-rots. The complete life-history of the fungus is worked out, the results of inoculations given and its distribution in the state shown. The illustrations are especially fine.

The second paper bears the title "Ear Rots of Corn," by Thomas J. Burrill and James T. Barret (Bull. No. 133, Ill. Agric. Exp. Sta., Feb., 1909). This a more extensive bulletin, largely upon the same subject as the earlier publication by the Nebraska Experiment Station, and is one which merits the careful reading of all plant pathologists, mycologists and others interested in the botanical or practical aspects of the subject. In Illinois the annual loss from ear rots is from two to four and a half per cent. of the entire crop, representing a money loss of from two to five and a half million dollars. This bulletin is the result of extensive investigations covering several years. Ninety per cent. of the rot was found to be due to *Diplodia zeae* (Schw.) Lev. The fungus was thoroughly studied in laboratory and field; inoculations were made to show the time and mode of infection; its round of life was carefully worked out, and means of prevention suggested.

Three species of *Fusarium* are largely responsible for the other rots. The characteristic rot of each species is described but work upon these forms is still incomplete.

MORE DARWIN LITERATURE

IT may be well to record here several addresses that have seen the light in various places in printed form:

"Darwin as a Naturalist: Darwin's Work on Cross Pollination in Plants," is the title of Dr. William Trelease's address before the Botanical Society of America last winter, and published in *The American Naturalist* for March, 1909. This is first a general estimate of Darwin as a student of plants, followed by an analysis of his contributions to our knowledge of the mechanism and meaning of cross pollination, including a list of his publications (twenty-two titles) on pollination and fertilization.

"Darwin and Botany" is the title of a short address given by Dr. N. L. Britton at the American Museum of Natural History on February 12 last, and published in the *Popular Science Monthly* for April, 1909. In this the writer traces the evolution of Darwin's contributions to botany, and declares that "the value of the impulse given by Darwin to botanical investigation in all its branches is beyond estimation."

Professor J. M. Macfarlane's first address, "Darwin in Relation to his own and the Pre-Darwinian Period," before the faculty and students of Pennsylvania College, February 12, is a summary review of the period preceding Darwin's work, and the steps by which the different phases of the doctrine of evolution have been attained. His second address, "Lessons from the Life and Writings of Charles Darwin," before the members of the Philadelphia Girls' High School, February 15 and 23, brings out Darwin's persistence in his work, his self-denial, his sweet spirit, free from envy or jealousy and his faith in the ultimate dominance of truth. His third address, "The Legacy Left us by Darwin and his Collaborators," before the Linnean Society, the faculty and students of Franklin and Marshall College, February 27, dwells upon

the evolution and transformation in thought that has been one of the greatest results from the work of the great naturalist. These three addresses have been brought together and privately printed, making a pretty 64-page pamphlet with the general title "Charles Darwin: Three Appreciations, by J. M. Macfarlane."

Here may be listed Dr. R. G. Eccles's "Parasitism and Natural Selection: A Medical Supplement to Darwin's Origin of Species," first published in the *Medical Record,* July 31, 1909, and now reprinted as a 34-page pamphlet. The author emphasizes the part taken by parasites in the evolution of organisms, not only in the present, but also in the remote past.

A NEW BOTANICAL HISTORY

Proofs have been received of the first part of Dr. E. L. Greene's "Landmarks of Botanical History," now in the press and soon to be published in the "Smithsonian Miscellaneous Collections." When completed the work will consist of three volumes, and judging from the pages we have examined it will be a most helpful and discriminating contribution to our knowledge of the development of the science. At the outset the author makes the rather startling statement that "What is here undertaken is not a history of botany." He has not planned to present "in chronological succession the long line of the contributors to the upbuilding of this science with an account of the best contributions each has made," but rather to touch here and there upon the work accomplished by botanists in the gradual development of botany from its earliest beginnings. In the phrase of to-day, he proposes "to touch the high points" in the history of botany.

Every botanist will await the publication of this book with great interest, for no man is better prepared by nature and education for this task than Dr. Greene. An early notice of the first completed volume will appear in these columns.

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AN INDUSTRIAL COMMISSION

Some recent developments in the relation of producers and manufacturers of cotton in the United States certainly call for a scientific study of the question with a view to devising some plans by which the elements entering into the cotton industry shall the more clearly understand the situation and be better understood by other factors of the industry.

At a recent meeting of the Georgia Industrial Association in Atlanta, Ga., the cotton mill owners of the state passed the following resolutions:

> Resolved by the Georgia Industrial Association that, owing to the disparity between the cost price of cotton goods and yarns, based upon the present price of cotton, and the market price thereof, that it is necessary for the mills of this association, as a matter of self-protection, to inaugurate and enforce the curtailment of not less than 25 per cent. of their running time.
>
> Resolved, further, that each mill of this association is instructed to make such curtailment not later than November 1, 1909, and continuing until January 1, 1910, and thereafter until the selling price of the finished product approximates its cost.
>
> We further recommend that all the mills of this association decline all offers and withdraw all quotations upon finished product at a less price than the cost thereof, based upon the price of cotton at the time of sale.

It is a well-known fact that the cotton raisers of the south have long been trying to organize themselves, so that they would be able to have something to say about the price of cotton, and in view of the present high prices, they think that they have cause to rejoice at their efforts, and to believe that they have scored a victory. While the writer believes that the law of supply and demand will eventually regulate, it must be conceded that this misunderstanding is calculated to lead to serious results, if the cotton industry of the south and country fails to grasp its meaning.

The National Farmers' Union of America in answer to the above resolutions recently issued a statement through the public press that "curtailment of output by cotton mills